

5.8 HAZARDS AND HAZARDOUS MATERIALS

The hazardous materials information provided in this section is summarized from the following documents:

- *Phase I Environmental Site Assessment*, C. Young Associates (CYA). May 25, 2012 (Appendix L); and
- *Former South Quarry Amended Reclamation Plan Draft and Final EIR* (referred to herein as Reclamation Plan EIR), HELIX Environmental Planning Inc., September 2008 and February 2010, respectively.

A series of hazardous materials related reports have been prepared for the Reclamation parcel of the project site. These reports include the following:

- *Phase I Environmental Site Assessment* (ESA), prepared in April 1999 by Brown and Caldwell;
- *Phase I ESA*, prepared in October 1999 by Ninyo & Moore;
- *Corrective Action Plan (CAP)*, prepared in September 2004 by Brown and Caldwell; and
- *Corrective Action Plan*, prepared in October 2010 by Brown and Caldwell.

CYA reviewed the two Phase I ESAs and the two CAPs in conjunction with additional information obtained from the California State Water Resources Control Board Geotracker database. The information provided in these reports is summarized below as cited by CYA.

5.8.1 Existing Conditions

General Conditions

A portion of the Reclamation parcel is currently rough-graded associated with reclamation activities. The northwestern portion and southerly slopes of this parcel remain vacant, and remained relatively undisturbed during the historical mining operations on this parcel. The western portion of the project site, the Panhandle parcel, is vacant undisturbed land. Prior to its current condition, the Reclamation parcel was developed with an aggregate mining operation operated by Hanson Aggregates. Hanson reportedly maintained office buildings, two asphalt plants, a concrete batch plant, a recycled materials area for asphalt and concrete, a rock crushing plant, maintenance areas, two explosives magazine/containers, an auxiliary office building, an office and scale room building, a sales office, a storage building, four above-ground storage tanks and 21 underground storage tanks.

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Historical

CYA reviewed the two previous Phase I ESAs and the two CAPs. Additional information was obtained from the California State Water Resources Control Board Geotracker database. The following is a summary of the previous environmental concerns, assessment and remediation activities conducted at the project site, to date:

Past quarry operations and current production activities have been confined to approximately 52 acres of the 100-acre Reclamation parcel, located in its eastern portion of the project site. The quarry has been decommissioned, which included removal of the former office and storage buildings, two asphalt plants, a

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concrete batch plant, a recycled-material area for asphalt/concrete, a rock crushing plant, a maintenance shop, bulk materials storage areas, fueling facilities, several storage trailers and fenced areas, two empty explosives magazines containers, a scale-room building, a sales office, five former aboveground storage tanks (ASTs) and 21 former underground storage tanks (USTs).

Four diesel USTs were removed from the project site on December 17, 1986. Two of the USTs had 4,000-gallon capacities, one had a 15,000-gallon-capacity, and one had a 20,000-gallon capacity. On February 26, 1987, one 1,000-gallon gasoline tank was abandoned in place by slurry filling. No unauthorized releases were observed at the time these tanks were decommissioned. However, on April 17, 1997, a 550-gallon capacity waste oil tank was removed. Analytical results for a soil sample collected from below the tank during the removal inspection revealed a total petroleum hydrocarbons (TPH) concentration of 1,400 milligrams per kilogram (mg/kg) resulting in an “unauthorized release” case being opened by the Department of Environmental Health (DEH).

A limited site assessment was subsequently performed in 1998, as documented in a report prepared by Kleinfelder dated August 3, 1998. Gasoline and diesel impacts related to the eight remaining and operating USTs in the area were reported. The maximum TPH concentrations reported for impacted soil samples were 3,500 mg/kg as gasoline and 30,000 mg/kg as diesel. The eight USTs were removed in August 1998. The tanks included two 10,000-gallon capacity gasoline USTs, three 10,000-gallon capacity diesel USTs, and three 12,000-gallon capacity diesel USTs. The distribution lines and dispensers associated with the UST system were also removed in March 2000. An estimated 900 cubic yards of impacted soil was removed and disposed of off-site.

Confirmation samples were then collected from the walls of the UST excavation to determine the effectiveness of over-excavation and soil removal. Based on the confirmation sample results, soil impacted with diesel-range hydrocarbons still remained beyond the excavated area. Subsequent assessment data indicated that an estimated 400 cubic yards of fuel-impacted soil in the vicinity of the six former diesel tanks remained in place. An estimated 1,500 cubic yards of residual TPH impacted soil remained in the vicinity of the former gasoline USTs.

Seventy-four soil borings were drilled and sampled at the project site from August 1998 to November 1999. Temporary groundwater monitoring wells were also installed in 26 of the borings. Three of the borings were converted into permanent monitoring wells (KMW-1 through KMW-3). In March 2001, an additional 13 permanent groundwater monitoring wells (MW-1 through MW-13) were installed at the project site. Additional investigation in January 2003 included the drilling of 11 borings north of Buena Vista Creek. Data obtained from the borings were used to select the locations for four additional wells near the creek. These wells (MW-14 through MW-17) were installed in February 2003.

Water level measurements for the wells indicated the groundwater flow direction to be to the south/southwest. Liquid-phase hydrocarbons (LPH) were first detected in two of the groundwater monitoring wells (MW-3 and MW-7) in May 2001. Although LPH was not detected in MW-7 after May 2001, it was measured in MW-3 until March 2005. Beginning in 2001, LPH was purged from MW-3 on a quarterly basis. Approximately 148 gallons of groundwater and LPH were removed from MW-3 through March 2004.

Prior to implementation of site remediation in July 2005, the maximum detected concentration of TPH as gasoline in groundwater was 53,000 micrograms per liter ($\mu\text{g/l}$). The maximum detected TPH as diesel concentration was 66,000 $\mu\text{g/l}$. The maximum detected concentrations of aromatic hydrocarbons were as follows: benzene-19,000 $\mu\text{g/l}$, toluene-12,000 $\mu\text{g/l}$, ethyl-benzene-1,600 $\mu\text{g/l}$, and total xylenes-10,400 $\mu\text{g/l}$. The maximum detected concentrations of the fuel oxygenates methyl-tert-butyl ether

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(MTBE) and tert-butyl alcohol (TBA) were 2,200 µg/l and 22 µg/l, respectively. It was noted that several samples had elevated detection limits for TBA of up to 500 µg/l.

In December 2003, six ORC® barrier trenches were installed at the project site to inhibit the migration of dissolved-phase gasoline, diesel, aromatic hydrocarbons, and fuel oxygenates. The trenches extended approximately five feet below the water table and were backfilled with ORC® slurry. By January 1995, it was concluded that this interim remedial action (IRA) was not effective. Analytical data for groundwater samples provided the basis to delineate the lateral extents of dissolved benzene and methyl-tert-butyl ether (MTBE) by mid-2005. The dissolved benzene plume has reportedly stabilized approximately 200 feet downgradient from the former fuel UST area. The dissolved MTBE plume has migrated approximately 700 feet downgradient. Petroleum hydrocarbons (e.g., gasoline and diesel), volatile organic compounds (including benzene), and fuel oxygenates (e.g., MTBE) have not been detected in surface water samples collected from Buena Vista Creek.

Removal of TPH-impacted soil from the source area (i.e., former UST area) was performed from July 2005 through March 2006 as an IRA. The excavated soil was placed into on-site passive bioremediation treatment cells in mid-2006 with the intention of re-using the remediated soil on-site. Based on 1998 site assessment data, it was estimated that approximately 7,700 cubic yards of soil required excavation (1,900 cubic yards of TPH-impacted soil and 5,800 cubic yards of clean soil). During IRA implementation, the volume of TPH-impacted was found to be significantly greater than anticipated. A total of 43,500 cubic yards of soil were excavated. This excavated soil was estimated to consist of 14,000 cubic yards of clean soil, 10,500 cubic yards of low-level TPH-impacted soils that could be reused on-site (with restrictions), and 19,000 cubic yards of TPH-impacted soil. Following removal of the soil, the excavated areas were backfilled. Verification sampling of soil treated in the bioremediation cells was completed in the second quarter of 2009.

Following the excavation of TPH-impacted soils in 2006, four groundwater monitoring wells were installed to replace wells that were destroyed prior to implementation of the IRA. Sixteen ozone-sparging wells and three vapor probes were also installed in association with a pilot test to address residual impacts to groundwater beneath the site. The pilot test began on August 28, 2006, and concluded on March 15, 2007 when the operation was approved by DEH for continued use as part of the IRA. The ozone-sparging system operated through February 2010.

A Corrective Action Plan (CAP) for the project site was prepared in 2010 and was submitted to the DEH for review. The CAP indicated that interim remedial measures have significantly reduced concentrations and potential contaminants of concern (COCs) at the project site. Review of chemical fate in groundwater indicated that the primary mechanisms of natural attenuation at the project site are dispersion and biodegradation based on plume stability, presence of daughter products such as TBA, low dissolved oxygen (DO) concentrations in the source area prior to interim remedial measures, and utilization nutrient electron acceptors such as nitrate. The CAP also indicated that 500 cubic yards of diesel-impacted soil remained on-site with previously granted permission from the DEH. Further, the CAP indicated no receptors for COCs in groundwater from the project site since Buena Vista Creek is located down gradient of the COC plume and sampling at a cross-gradient well away from the source area indicated no detectable concentrations of COCs. The CAP evaluated several different remedial technologies and concluded that monitored natural attenuation is the most appropriate and cost-effective remedial alternative. The DEH reviewed the CAP and issued a conditional concurrence letter dated February 8, 2011, and approval would be completed after a public participation process was completed. After the public participation period was completed, the DEH issued a letter dated June 7, 2011 which indicated that, based on the CAP and CAP Addendum (as well as the Responsible Party's responses to public comments); the DEH concurs with, and authorizes, remediation of on-site soil and groundwater by

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passive remediation (i.e., natural attenuation). The only remaining remedial work to be completed at this time is the removal of an approximately 13,500 cubic yard stockpile of petroleum hydrocarbon impacted soil to an off-site, regulated receiving facility or placed in a location approved by the Regional Water Quality Control Board (RWQCB) that would not restrict residential development. Regulatory closure of the site by the DEH is reportedly forthcoming in the near future.

Current

CYA reviewed federal and state environmental databases provided by Environmental Data Resources, Inc. (EDR) for information pertaining to documented and/or suspected releases of regulated hazardous substances and/or petroleum products within specified search distances. A copy of the EDR report is included in the Phase I ESA in Appendix L of this EIR. Table 5.8-1 lists the listed properties within one mile of the project site.

The project site was also listed on the following non-American Society for Testing Materials (ASTM) databases:

- San Diego County DEH Hazardous Materials Management Division (HMMD);
- Historical Underground Storage Tanks (HIST UST);
- Statewide Environmental Evaluation and Planning System (SWEEPS) US;
- Facility Index System/Facility Registry System (FINDS);
- National Pollutant Discharge Elimination System (NPDES);
- HIST “Cortese” Hazardous Waste & Substances Sites List (CORTESE);
- Facility and Manifest Data (HAZNET); and
- Emissions Inventory Data (EMI).

These listings are in conjunction with the previous on-site aggregate mining operations, assessment, and remediation conducted at the project site. No adjacent properties or other properties within the specified search radius by EDR were listed on any of the non-ASTM databases reviewed as a part of this assessment.

Brown and Caldwell noted in the CAP prepared for the Reclamation parcel that there is approximately 1,000 cubic yards of petroleum fuel contaminated soil (FCS) south of Haymar Drive, in the northern portion of the Reclamation parcel.

Airport Safety

The project site is not located within any airport influence area.

Wildland Fire Hazards

The entire south side of the project site, most of which will be incorporated into the project as open space, contains steep slopes with natural vegetation. These areas are considered a wildland fire hazard. The east side of the project site is graded, and is bordered by existing development, and therefore does not pose a wildland fire hazard. The western portions of the project site consist of flatter topography, with varying density of vegetation. Adjacent to these areas (immediately off-site) are grassland areas and more densely vegetated areas associated with the Buena Vista Creek. These areas are also considered a wildland fire hazard.

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Table 5.8-1. Hazardous Materials Sites Identified within One Mile of the Project Site

Listed Property	Mapped Distance and Direction From the Project Site	Details	Concern?
Hanson Aggregates - South Coast Materials South Coast Asphalt Products	NA	The project site was listed due to its previous use as an aggregate mining site. Extensive assessment and remediation activities, including groundwater monitoring, soil excavation, and direct injection activities, have been conducted under regulatory oversight.	No
Shell Service Station (3502 College Boulevard)	0.450 mile, east-northeast	This facility was listed in the LUST database and the San Diego County SAM database for a release of gasoline which impacted the soil and groundwater at this facility. A regulatory oversight case was opened and additional site assessment activities were completed. Case closure was granted by the DEH in 2002. Based on the distance of this facility from the site (0.45 miles) and the case status (closed), this facility is not considered an environmental concern to the project site.	No
Reflect Shine Car Wash (3528 College Boulevard)	0.456 mile, east-northeast	This facility was listed in the LUST database and the San Diego County SAM database for two release cases (one during dispenser upgrades and one during assessment of the first release case when a product pump was accidentally punctured). Both releases were managed as one case. The regulatory oversight cases were opened and additional site assessment activities were completed. Soil borings indicated soil contamination was limited to the area adjacent to the dispensers to a depth of less than ten feet below grade with approximately 320 cubic yards of impacted soil remaining on-site. Groundwater samples were collected and indicated that groundwater had not been impacted. The residual soil contamination does not pose a threat to human health or the environment. Case closure was granted by the DEH in 2007. Based on the distance of this facility from the project and the case status (closed), this facility is not considered an environmental concern to the project site.	No
College Blvd. Exxon Texaco APRO 44 (3401 College Boulevard)	0.466 mile, northeast	This facility was listed in the LUST database and the San Diego County SAM database for eight release cases from 1986 to 2006. Seven of the cases are currently closed. One case is "open" due to a release of gasoline that was identified in 2006. A regulatory oversight case was opened and additional site assessment activities, including groundwater monitoring, have been completed. A CAP, dated September 13, 2011, was prepared by Antea Group who requested case closure from the DEH. The CAP was not approved by the DEH pending additional details and information requests. No additional information was available for review and the case remains open. However, based on the distance of this facility from the project site, this facility is not considered an environmental concern to the project.	No
Tri-City Medical Center (4002 Vista Way)	0.732 mile, east-northeast	Listing for a "Tiered Permit" case that is currently "inactive and needs evaluation." No further information is provided. Based on the distance of the facility from the project site, this facility is not considered an environmental concern to the project site.	No

Emergency Response Plan

The City of Carlsbad has adopted the City of Carlsbad Emergency Plan, which addresses the City's planned response to extraordinary emergency situations. The city's plan identifies certain open space areas and public buildings to serve as emergency shelters when residents must be relocated. The proposed project site is not designated as an emergency shelter area. The Emergency Plan also identifies primary road arterials to move people in the event of an emergency. These arterials are: El Camino Real, La Costa Avenue, Rancho Santa Fe Road, and Carlsbad Village Drive.

5.8.2 Regulatory Setting

State

Hazardous waste in California is regulated primarily under the authority of the Resource Conservation and Recovery Act (RCRA) and the California Health and Safety Code. Other California laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

CalEPA and the State Water Resources Control Board (SWRCB) establish rules governing the use of hazardous materials and the management of hazardous waste. Applicable state and local laws include the following:

- Public Safety/Fire Regulations/Building Codes;
- Hazardous Waste Control Law;
- Hazardous Substances Information and Training Act;
- Air Toxics Hot Spots and Emissions Inventory Law;
- Underground Storage of Hazardous Substances Act; and
- Porter-Cologne Water Quality Control Act.

Within CalEPA, the Department of Toxic Substances Control (DTSC) has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the state agency, for the management of hazardous materials and generation, transport, and disposal of hazardous waste under the authority of the Hazardous Waste Control Law (HWCL).

California Hazardous Waste Control Law

The HWCL, Health and Safety Code Sections 25100-25249, is the primary hazardous waste statute in the State of California. The HWCL implements RCRA as a "cradle-to-grave" waste management system. It specifies that generators have the primary duty to determine whether their wastes are hazardous and to ensure their proper management. The HWCL also establishes criteria for the reuse and recycling of hazardous wastes used or reused as raw materials. The HWCL exceeds federal requirements by mandating source reduction planning and a much broader requirement for permitting facilities that treat hazardous waste. It also regulates a number of types of wastes and waste management activities that are not covered by federal law with RCRA.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

The Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program) required the administrative consolidation of six hazardous materials and waste programs

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(Program Elements) under one agency, a Certified Unified Program Agency (CUPA). The program elements consolidated under the Unified Program are:

- Hazardous Waste Generator and On-site Hazardous Waste Treatment Programs (a.k.a. Tiered Permitting);
- Aboveground Petroleum Storage Tank Spill Prevention Control and Countermeasure Plan (SPCC);
- Hazardous Materials Release Response Plans and Inventory Program (a.k.a. Hazardous Materials Disclosure or “Community-Right-To-Know”);
- California Accidental Release Prevention Program (CalARP);
- Underground Storage Tank (UST) Program; and
- Uniform Fire Code (UFC) Plans and Inventory Requirements.

The Unified Program is intended to provide relief to businesses complying with the overlapping and sometimes conflicting requirements of formerly independently managed programs. The Unified Program is implemented at the local government level by CUPAs. Most CUPAs have been established as a function of a local environmental health or fire department. Some CUPAs have contractual agreements with another local agency, a participating agency, which implements one or more Program Elements in coordination with the CUPA.

Hazardous Materials Release Response Plans and Inventory Act of 1985

The Hazardous Materials Release Response Plans and Inventory Act, also known as the Business Plan Act, requires businesses using hazardous materials to prepare a plan that describes their facilities, inventories, emergency response plans, and training programs. Hazardous materials are defined as unsafe raw or unused materials that are part of a process or manufacturing step. They are not considered hazardous waste. Health concerns pertaining to the release of hazardous materials, however, are similar to those relating to hazardous waste. A Hazardous Materials Management Plan will be prepared for the proposed Project. The Hazardous Materials Management Plan will provide for safe storage, containment, and disposal of chemicals and hazardous materials related to project operations, including waste materials.

California Regional Water Quality Control Board, San Diego Region Order No., R9-2002-0342,

Regional Water Quality Control Board Order No. R9-2002-0342 outlines the Waste Discharge Requirements for the Disposal and/or Reuse of Petroleum Fuel Contaminated Soils in the San Diego Region, and Monitoring and Reporting Program for the Disposal and/or Reuse of Petroleum Fuel Contaminated Soils in the San Diego Region. Additionally, any project activity that encounters or disturbs contaminated or potentially contaminated media (e.g., soil, soil vapor, groundwater) shall be performed in accordance with the California Water Code; California Code of Regulations Titles 22, 23, and 27; RWQCB Resolution No. R9-2007-0104 Conditional Waiver No. 8, specifically Sections 8.I.A and 8.II.D and E; and 29, 40, and 49 Code of Federal Regulations.

5.8.3 Project Impacts

This section presents the significance criteria used for considering project-related hazards and hazardous materials, an evaluation of potential hazards and hazardous materials impacts, the methodology employed for the evaluation, and mitigation requirements, if necessary.

5.8.3.1 *Thresholds of Significance*

As defined in Appendix G of the *CEQA Guidelines*, project impacts with regards to hazards and hazardous materials would be considered significant if the project was determined to:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in safety hazard for people residing or working in the study area.
- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent or urbanized areas or where residences are intermixed with wildlands.

5.8.3.2 *Environmental Impacts*

Routine Transport, Use, or Disposal of Hazardous Material

The proposed project includes the development of 656 residential units, community facilities, open space/conservation areas, and supporting infrastructure. Construction, fueling, and servicing of construction equipment may involve the use of hazardous materials and wastes, including the transport, storage, and disposal of commercially available hazardous materials such as gasoline, brake fluids, coolants, and paints. The handling of such materials would occur during short-term construction activities and would be subject to federal, state, and local health and safety requirements. Furthermore, these materials would not be used in quantities such that they would pose an environmental risk.

The residual petroleum hydrocarbon soil and groundwater contamination that is beneath the Reclamation parcel is considered a potential environmental hazard. However, hazardous materials remediation for the Reclamation parcel pursuant to the approved “closure” plan by the lead regulatory agency, San Diego County DEH, is anticipated to occur in late 2012. Upon completion of the remedial activities and site “closure,” the remediated site would be in a condition that is suitable for residential development (i.e., the

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remediated soils would meet required remediation thresholds for hazardous materials of concern for the site). However, grading activities in the northern portion of the Reclamation parcel would encounter approximately 1,000 cubic yards of FCS, just south of Harmar Drive. Therefore, proposed grading and site development activities would result in the transport and disposal of hazardous materials (e.g. fuel contaminated soil). The impact associated with removal of the contaminated soils is potentially significant. Any project activity that encounters or disturbs petroleum fuel contaminated soils is required to follow the RWQCB Order No., R9-2002-0342, as well as other applicable state and federal regulations identified in RWQCB Order No., R9-2002-0342 (i.e., California Code of Regulations Titles 22, 23, and 27 and RWQCB Resolution No. R9-2007-0104 Conditional Waiver No. 8). Mitigation Measure HAZ-1 requires compliance with RWQCB Order No. R9-2002-0342 and would reduce impacts to a less than significant level.

Hazards in Proximity to School(s)

Hope Elementary School is located within 0.25 mile of the project site. However, the project will not result in a significant hazard to the proposed school because all storage, handling, transport, and emission and disposal of hazardous substances associated with the above mentioned construction activities will be in full compliance with local, state, and federal regulations. Furthermore, these materials would not be used in quantities for development of the site such that they would pose an environmental risk. Proposed project land uses (residential, community facilities, open space) do not represent a hazard as they will not utilize hazardous materials in quantities that would pose a significant risk. The impact associated with use of hazardous materials within 0.25 mile of a school is considered less than significant.

Existing On-site Hazardous Materials

As identified under existing conditions, the project site was listed on numerous hazardous materials listings due to the previous use of the Reclamation parcel as an aggregate mining site. Extensive assessment and remediation activities, including groundwater monitoring, soil excavation, and direct injection activities, have been conducted under regulatory oversight. The on-going remedial work is nearly complete and the Reclamation parcel “closure” by the lead regulatory agency, San Diego County DEH, for the project site is anticipated to occur in late 2012. Upon completion of the remedial activities, the site is expected to support residential land development, as presently planned. However, as noted previously, south of Haymar Drive, approximately 1,000 cubic yards of FCS would be encountered during grading activities. Therefore, the impact associated with the presence of hazardous materials on-site is considered potentially significant. Mitigation Measure HAZ-1 Measure HAZ-1 requires compliance with RWQCB Order No., R9-2002-0342 and would reduce impacts to a less than significant level.

Emergency Plans

The project site will be accessed by three proposed internal roadways (Streets “A,” “B” and “C”), which will extend off of the existing Marron Road and Haymar Drive. Marron Road is a circulation element roadway that is currently shown on the General Plan to ultimately extend through the project site in an east-west direction from College Boulevard westerly to its existing terminus, approximately 1.3 miles away to the west (east of El Camino Real). Marron Road is designated as a four-lane secondary arterial road. The proposed project includes a General Plan amendment to eliminate the thru-connection of Marron Road. The City of Carlsbad’s Emergency Plan does not identify Marron Road as a primary road arterial to move people in the event of an emergency. Additionally, no measurable traffic distribution benefits accrue from inclusion of this roadway link in the City’s circulation element plan (see EIR

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Section 5.14 Transportation and Traffic). The proposed project site is also not designated as an emergency shelter area.

Airports

The project site is not located within a Runway Protection Zone or approach/departure zone associated with the McClellan-Palomar Airport. No impact associated with potential hazards from McClellan-Palomar Airport is anticipated.

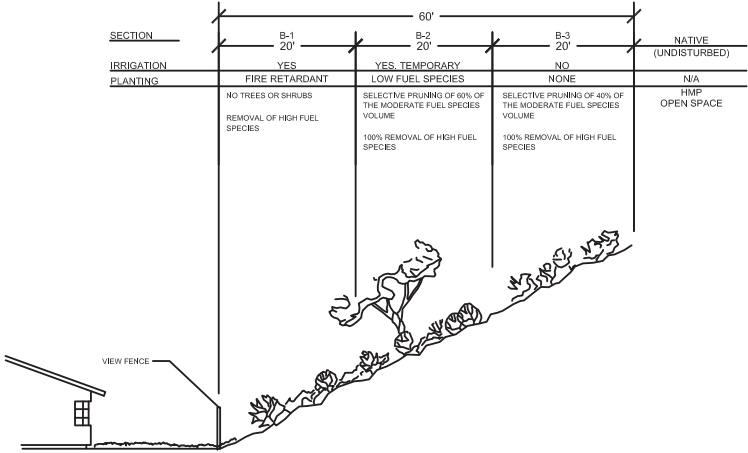
Wildfires

The proposed project will provide open space areas that will contain natural vegetation and steep slopes. These areas pose a risk of wildfire. These areas will contain native vegetation and in some cases, steep slopes. In accordance with the City of Carlsbad Landscape Manual and fire department requirements, a Fire Fuel Modification Zone will be implemented adjacent to proposed open space edges of the project. The City Landscape Manual, Section VI. F requires that the Fire Fuel Modification Zone consist of a minimum 60-foot structural setback (three 20-foot zones) for manufactured and native slopes from adjacent open space. No trees will be allowed within Zones 1 and 2, closest to the structures. In most planning areas single loaded streets will serve as a Fuel Modification Zone by providing a buffer between residential areas and open space. The single loaded street design will result in a substantial increase in the setback from open space areas. The Fire Fuel Modification Zone will be implemented in several configurations as specified in the City Landscape Manual based on whether the residential development area abuts manufactured slopes with native vegetation, and if the slopes are uphill or downhill from the residential development. The proposed fuel modification plan, which depicts the locations of the proposed fuel modification zones, is illustrated on Figure 5.8-1. Figure 5.8-2 depicts the cross-sections for each of the fuel modification zone conditions. The fuel modification zone consists of a 60-foot buffer divided into three 20-foot sections consisting of different fire retardant vegetation. All fuel modification zones will be located within separate lots and will be managed by the Master Home Owners Association or the approved conservation management entity. Adherence to the fuel modification zones would ensure the potential fire hazard remains at a less than significant level.

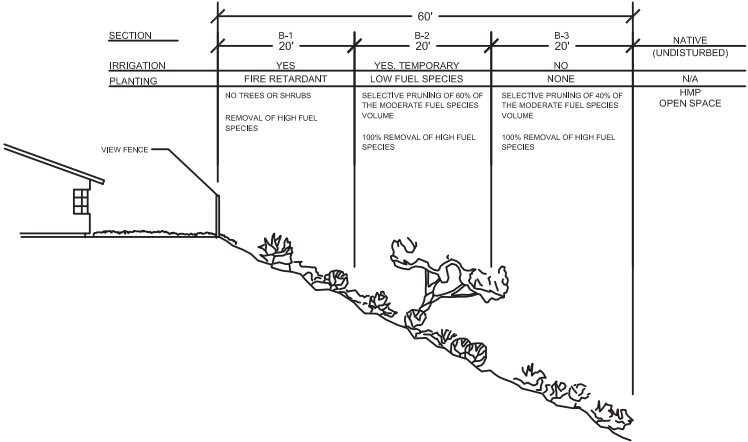
Offsite Improvements

Implementation of the proposed project will require construction of off-site improvements as described in EIR Section 3.0. Only minor grading would be associated with the utility and trailhead improvements and connections. Grading would occur to the east of the project site in the adjacent City of Oceanside parcel immediately east of PA R-1 and at the existing retaining wall on the western boundary of the Quarry Creek Plaza shopping center.

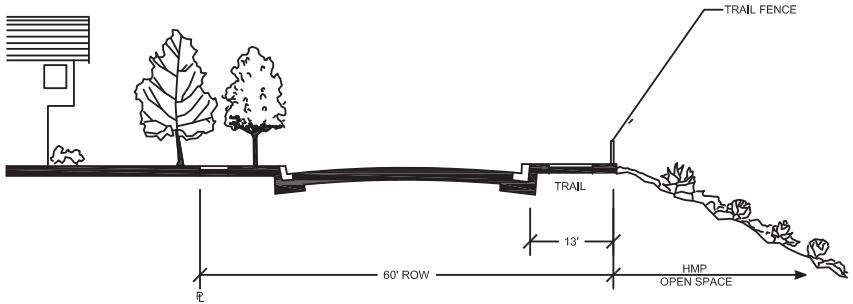
As stated previously, construction, fueling, and servicing of construction equipment may involve the use of hazardous materials and wastes, including the transport, storage, and disposal of commercially available hazardous materials such as gasoline, brake fluids, coolants, and paints. The handling of such materials would occur during short-term construction activities and would be subject to federal, state, and local health and safety requirements. Furthermore, these materials would not be used in quantities such that they would pose an environmental risk.



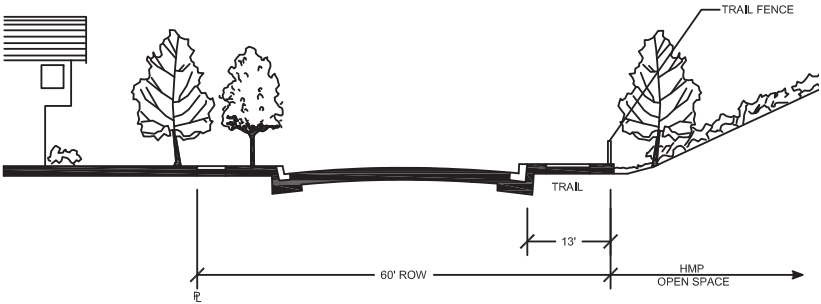
Condition A
60' Fire Suppression (Uphill Condition)



Condition B
60' Fire Suppression (Downhill Condition)



Condition C
Single Loaded Street (Downhill Condition)



Condition D
Single Loaded Street (Uphill Condition)

Fuel Modification Zones

FIGURE 5.8-2

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Residual petroleum hydrocarbon soil and groundwater contamination is beneath the Reclamation parcel, which may create a hazard for grading and fill activities adjacent to the Reclamation parcel. However, the Reclamation parcel is currently being remediated. Upon completion of the remedial activities and site “closure,” the remediated site would be in a condition that is suitable for development. Offsite grading and construction activities would not occur in the area south of Haymar Drive identified as to contain FCS. Therefore, proposed off-site grading and fill activities would not result in the transport or disposal of hazardous materials.

5.8.4 Level of Significance Before Mitigation

As described above, impacts associated with excavation and transport and disposal of hazards and hazardous material related to the area south of Haymar Drive containing approximately 1,000 cubic yards of FCS were determined to be significant. Mitigation Measure HAZ-1 described in Section 5.8.5 would reduce the impact to a less than significant level.

5.8.5 Environmental Mitigation Measures

Mitigation Measure HAZ-1 shall be implemented in order to reduce the impacts associated with excavation and transport and disposal of approximately 1,000 cubic yards for FCS.

HAZ-1 Per the California RWQCB, San Diego Region Order No., R9-2002-0342, any project activity that encounters or disturbs petroleum fuel contaminated soils (FCS) shall be required to follow the RWQCB’s *Waste Discharge Requirements for the Disposal and/or Reuse of Petroleum Fuel Contaminated Soils in the San Diego Region*, and *Monitoring and Reporting Program No. R9-2002-0342 for the Disposal and/or Reuse of Petroleum Fuel Contaminated Soils in the San Diego Region*. The requirements for proper transport and disposal of the FCS shall be included on the grading plans and permits for the proposed project.

Additionally, the construction contractor shall be required to follow all additional federal, state and local regulations that included but are not limited to the California Water Code; California Code of Regulations Titles 22, 23, and 27; RWQCB Resolution No. R9-2007-0104 Conditional Waiver No. 8, specifically Sections 8.I.A and 8.II.D and E; and 29, 40, and 49 Code of Federal Regulations.

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